

TITLE

5 USE OF THE KCNQ2 AND KCNQ3 GENES FOR THE DISCOVERY OF
AGENTS USEFUL IN THE TREATMENT OF NEUROLOGICAL DISORDERS

ABSTRACT

10 This invention relates to the co-expression of KCNQ2
and KCNQ3 genes in an appropriate mammalian cell line
(e.g., HEK 293E) to provide a preparation which could be
used as a high-throughput screen for the discovery of
15 agents that are either agonists or antagonists of the
expressed potassium channel. Mutations in the voltage-
gated potassium channel genes, KCNQ2 and KCNQ3, have been
linked to inherited forms of epilepsy in humans. One or
both of these genes are believed to encode the molecular
20 identity of the M channel. Agonists of the M channel may
be effective in the treatment of epilepsy, anxiety,
insomnia or other hyperexcitability disorders whereas
antagonists may be effective in the treatment of
Alzheimer's disease, peripheral neuropathy or other
25 neurodegenerative diseases.